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(54) Title: PRODUCTION OF HIGH MANNOSE PROTEINS IN PLANT CULTURE

(57) Abstract: A device, system and method for producing glycosylated proteins in plant culture, particularly proteins having a high mannose glycosylation, while targeting such proteins with an ER signal and/or by-passing the Golgi. The invention further relates to vectors and methods for expression and production of enzymatically active high mannose lysosomal enzymes using transgenic plant root, particularly carrot cells. More particularly, the invention relates to host cells, particularly transgenic suspended carrot cells, vectors and methods for high yield expression and production of biologically active high mannose Glucocerebrosidase (GCD). The invention further provides for compositions and methods for the treatment of lysosomal storage diseases.

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